

Remarks

Claims 1-5, 8-18 and 20-24 are pending.

Claims 1 and 12 are amended.

Claims 2, 4, 5, 8, 13-17, 20 and 21 are original.

Claims 3, 9-11, 18 and 22-24 are as previously presented.

Claim 1 is amended for clarity by specifying in lines 1 and 2 that the dispersion is a dispersion of particles and that these particles comprise components a and b. The claim is further amended in the third line from the end to specify that it is the particles that are present at 20% by weight. Support is readily derived from the specification, for example, page 1 lines 1 and 2 state that the invention relates to an "aqueous polymer dispersion with a particle size". Applicants further note that the invention provides a process for preparing "such aqueous dispersions with a high light stabilizer content", page 1 paragraph 1. Page 3, lines 15-20 discloses that the dispersion of the invention is prepared by a heterophase radical polymerization in the presence of light stabilizers. Thus, Applicants respectfully submit that it is clear that the invention is to a concentrated dispersion of the particles containing these polymers and light stabilizers.

Claim 12 is amended to correct the term "obtainable" to "obtained" so as to eliminate any ambiguity relative to the claimed subject matter.

No new matter is added.

Applicants thank the Examiner for his time in the telephone discussion of October 22, 2009 regarding the language of the instant claims. Applicants have since reviewed the claim language and the prosecution record in light of the Examiner's helpful comments and concluded that the language of claim 1 was perhaps not conveying the essence of the invention.

While modest in scope, Applicants believe that the instant amendments clarify certain elements of the invention. As related on page 1 lines 7-8 of the specification, one particular goal of the invention is to provide a way to prepare aqueous dispersions with a high light stabilizer content. Applicants respectfully hold that an essential feature of the invention is the composition of the particles. Applicants respectfully contend that forming the instant polymers in the presence of the non-polar light stabilizer in the manner given generates a novel light stabilizer containing particle which has a high light stabilizer content and which can be dispersed at high concentrations in water.

Thus, claim 1 relates to an at least 20% by weight dispersion in water of these novel particles, wherein the ratio of light stabilizer to the thus formed polymer is in the particle is 1:1 or greater.

Applicants respectfully maintain that not only do the particles themselves have novel and unpredicted physical characteristics, but that the polymers comprise novel polymers. Applicants have previously presented a declaration signed by Frank Pirrung with data and photographs which showed that the instant particles can be made into a stable aqueous dispersion at a much higher concentration than otherwise identical particles containing otherwise identical polymers which differ only in the manner of preparation. Applicants respectfully aver that it is clear that the particles have different physical properties.

Applicants also respectfully note that it is well known that the method by which polymers are formed impact the polymer formed. A polymer can not always be defined simply by reciting the monomers used to make it. In fact, polymers are not generally claimed as discrete chemical entities, but rather by composition, methods of preparation and/or properties. The instant polymers are of course a product by process, however, pretty much all polymers are described as such. Applicants respectfully maintain that the instant polymers are in fact shown to be physically different than otherwise identical polymers in light of the dispersion properties described above.

Applicants therefore submit that the instant polymers and the instant particles are not being defined only by process steps, but that the process steps are a legitimate way to describe the polymer.

Applicants further respectfully point to the limitation that the dispersion of claim 1 requires that the instant particles be present at 20% by weight in water and only particles which can form such a dispersion are part of the claim. Applicants respectfully aver that there is no disclosure of a particle or dispersion which meets all of the instant limitations or suggests a way to prepare them.

Previous to the instant invention, dispersing larger amounts of non-polar stabilizers in water required large amounts of dispersing aids of various types as discussed in the first few pages of the specification. Applicants have discovered however, that polymerizing certain monomers via heterophase oil in water radical polymerization in the presence of non-polar light stabilizers provides a composition that has unique physical properties.

Rejections

Claims 12, 20, 21 and 23 are rejected under 35 USC 112, second paragraph, as being indefinite. Applicants have amended claim 12 as kindly suggested by the Examiner to specify that the polymer powder is "obtained by" rather than "obtainable by". Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection of claims 12, 20, 21 and 23 are rejected under 35 USC 112, second paragraph.

Claims 1-5, 8, 9, 12-18 and 20-24 are rejected under 35 USC 103(a) as unpatentable over Heger et al, US 6,531,117 alone or further in view of Weier et al, US 2002/0045681. Heger et al discloses aqueous dispersions based on carrier polymers and having non-polar light stabilizers added thereto. The Examiner admits that Heger et al fails to disclose a dispersion with an amount of stabilizer to polymer ratio of greater than 100 parts stabilizer to 100 parts polymer. Heger et al discloses up to 70% stabilizer at column 2, lines 50-58:

The content of at least one sparingly water-soluble or water-insoluble organic UV filter substance in the light protection agent formulations according to the invention is in the range from 0.1 to 70% by weight, preferably in the range from 2 to 40% by weight, particularly preferably in the range from 3 to 30% by weight, very particularly preferably in the range from 5 to 25% by weight, based on the dry mass of the formulations.

The Examiner points to column 5, lines 3-14 for the assertion that Heger et al discloses compositions wherein the relative amount of stabilizer to polymer is greater than 100 parts stabilizer to 100 parts polymer:

The amounts of the various components are chosen according to the invention such that the preparations comprise, in addition to the abovementioned UV filter substances, 0.1 to 80% by weight, preferably 5 to 70% by weight, particularly preferably 10 to 60% by weight, very particularly preferably 15 to 35% by weight, of one or more polymeric protective colloids (coating polymer) and optionally 0.1 to 80% by weight, preferably 0.5 to 70% by weight, particularly preferably 1 to 50% by weight, very particularly preferably 5 to 35% by weight of one or more matrix polymers for the core. The percentages by weight are based on the dry mass of the light protection agent formulation.

Based thereon, the Examiner concludes that if you choose the minimum amount of coating polymer (0.1%) and the minimum amount of optional matrix polymer (0.1%) and choosing the 70% as the amount of stabilizer, the claimed invention is obvious. Applicants respectfully submit that the Examiner's rejection is improper. The motivation to modify the prior art must flow from some teaching in the art that suggests the desirability or incentive to make the modification needed to arrive at the claimed invention. *Alza Corp. v. Mylan Laboratories Inc.*, 391 F.3d 1365 (Fed. Cir. 2004). No reason, suggestion or motivation to modify the cited prior art teachings to arrive at the claimed invention is provided in the reference itself. The requisite motivation in this instance can only be derived from applicant's specification. It is respectfully submitted that the suggestion to combine the reference can only be derived by hindsight from knowledge of the claimed invention. Accordingly, the teachings of Heger et al fail to render obvious the claimed invention.

The instant invention provides a stable dispersion in water of a polymer carrier and a non-polar, water insoluble light stabilizer wherein the amount of light stabilizer exceeds that of the carrier polymer. The carrier polymer of the invention is prepared by an oil in water radical polymerization of one or more selected acrylates or styrenes in the presence of the light stabilizer. The polymer / stabilizer mixture thus obtained has properties that are very different from almost identical polymer / stabilizer mixtures wherein the polymer is prepared in the absence of the stabilizer as shown in the declaration submitted May 28, 2008, specifically, stable dispersions with much higher concentrations of light stabilizer relative to carrier polymer can be prepared with the instant polymer / stabilizer mixture. The desirability and difficulties in obtaining aqueous dispersions with a high relative concentration of light stabilizer are discussed in the first three pages of the instant specification. Nothing in Heger et al would lead the skilled artisan to believe that a stable dispersion in accordance with the claimed invention would be possible. Applicants respectfully note that none of the Examples in Heger et al disclose or suggest such a composition.

Applicants further respectfully aver that the situation described above by the Examiner does not allow for the particles to be present at 20% by weight.

The Examiner relies upon Weier et al for the teaching of micro-emulsion techniques and polymerizing monomers in the presence of the UV stabilizers. Based thereon, the Examiner states that it would be obvious to formulate the dispersion of Heger following the "in-situ" polymerization system of Weier et al. Applicants respectfully submit that the combination of references would not result in Applicant's claimed invention in view of the fact that neither references teaches nor suggests

that a stable dispersion wherein the weight ratio of non-polar light stabilizer to polymer carrier is greater than 100 parts of light stabilizer per 100 parts of carrier is possible.

Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection of claims 1-5, 8, 9, 12-18 and 20-24 under 35 USC 103(a) as unpatentable over Heger et al, US 6,531,117 alone or further in view of Weier et al, US 2002/0045681.

Claims 10 and 11 are rejected under 35 USC 103(a) as unpatentable over Heger et al, US 6,531,117 in view of Weier et al, US 2002/0045681.

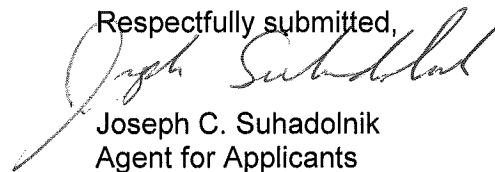
The Examiner relies upon the same basis for the rejection of claims 10 and 11 as set forth hereinabove. Applicants contend for the reasons set forth hereinabove that the instantly claimed invention is not obvious in light of the teachings of Heger et al and Weier et al.

Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection of claims 10 and 11 under 35 USC 103(a) as unpatentable over Heger et al, US 6,531,117 in view of Weier et al, US 2002/0045681.

Applicants submit that the present claims are in condition for allowance and respectfully request that they be found allowable.

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